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EXAMINER

LOPEZ, CARLOS N

ART UNIT PAPER NUMBER

1731

DATE MAILED: 05/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,043

Applicant(s)

LILLY ET AL.

Examiner

Carlos Lopez

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION***Claim Objections***

Applicant is advised that should claims 6, 27, and 28 be found allowable, claims 32, 33, and 34 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The originally filed specification does not support the term "intermetallic reagent". The specification only supports intermetallic compounds such as titanium aluminide or iron aluminide and not intermetallic reagents¹, which are broader than compounds or intermetallic nano-clusters.

¹ re·a·gent (rê-â'jent) *noun*

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The specification does not clearly provide a definition for the newly introduced term "intermetallic reagent". It is unclear what applicant considers an "intermetallic reagent".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1) Claims 1-2, 13-14 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated over Heim et al (US 4,193,412). Heim discloses a cigarette filter element having aluminum and titanium metals to reduce toxic components of the tobacco smoke (Column 1, lines 41-52).

As for claim 2, the metal reagent may be added to a tobacco element or their filter element (Column 1, lines 5-11).

As for claims 13 and 14, a metal reagent is added to a filter element of a smoking tobacco product (Column 1, lines 5-11).

As for claims 20-22, the claimed method is performed by Heim's cigarette.

A substance used in a chemical reaction to detect, measure, examine, or produce other substances.

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2) Claims 1,3, 12-13, 20, 23, 26-31, and 33-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Wennerberg (US 4,656,153). Wennerberg discloses using any transitional metal or combinations thereof supported on a porous carbon (reading on Applicant's claims 26 and 30-31) (Column 7, lines 14-20) may be used as a gas filter (which reads on Applicants claims 1,13, and 20) (Column 1, lines 14-17 and Examples 5-6). Since Wennerberg uses the instant claimed metals to filter hydrocarbons it would be inherent that the metals filtering hydrocarbons would function in the same manner as recited in applicant's claims 12 and 29. Additionally, since Wennerberg teaches of adding combinations of metals selected from iron and aluminum (See Col. 7 lines 14-21), it is considered that combinations of said metals is considered an "intermetallic reagent".

As for claims 3 and 23, examples 5-6 disclose hydrocarbons being filtered by the metal/carbon filter.

Claims 27-28 only further limit optional limitations and hence are anticipated by Wennerberg.

Claims 33-34 further recite limitations to the optional silica gel support carrier.

3) Claims 1-2, 7-8, 13-14, 15, 20-22, and 30-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Vanin et al (US 5,083,579). Vanin et al disclose a cigarette filter having metal reagent with a cellulose acetate base (Abstract, Column 2 lines 4-40). As for claims 7-8, the cellulose acetate provides support for the metal reagent. As for claims 13 and 20-21, the Vanin cigarette filter performs the claimed method. As for claims 14 and 22, the metal reagent is added the filter plug (12)

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(Column 4, lines 44-51). As for claim 15, the metal reagent is combined with cellulose acetate fibers as recited above. As for claims 30-31, the metal reagent is non-oxide metal ferrous iron. Additionally, it is considered that FeSO_4 , which is added to the filter as shown in table 1, is considered an "intermetallic reagent" because it has both metal and nonmetal elements.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4) Claims 3-5, 8-10, 12, 16-19, 23-26, 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heim et al (US 4,193,412). Claims 8-9, 18-19 and 26, additionally disclose placing the metal reagent on a support material such as silica gel, carbon or zeolite. While Heim discloses amorphous silica (Column 3, line 67-68) and not silica gel, Official Notice is taking that providing silical gel, carbon or zeolites as claimed by applicant are well-known support carriers. Support of the Official Notice may be found at column 2, lines 45-48 of Litzinger (US 3,716,063). It would have been obvious to a person of ordinary skill in the art to have to used silica gel, zeolites, or carbon as claimed by applicant since Examiner takes Official Notice that silica gel, zeolites, or carbon may have been substituted for amorphous silica support carrier in order to provide a wider selection and less expensive support carriers.

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As for claims 3, 5, 16, 23, and 25, the filter element removes tobacco smoke, which would include the claimed hydrocarbons.

As for claim 10, the filter element includes aluminum and titanium metals to reduce toxic components of the tobacco smoke (Column 1, lines 41-52).

Since Heim uses the instant claimed metals to filter tobacco smoke it would be obvious to a person of ordinary skill that the metals filtering the tobacco smoke would function in the same manner as recited in applicant's claims 12 and 29.

As for claim 21 and 22, a metal reagent is added to a filter element of a smoking tobacco product (Column 1, lines 5-11), which would eventually filter the smoke of the burning tobacco having the claimed hydrocarbons.

As for claims 4, 17, and 24, since Heim's in column 2, lines 45ff, teaches that the metal powders are "highly dispersed metals", it is an indication that not all the metals are dispersed. Thus, it is obvious to a person of ordinary skill in the art that some metal agglomerated/clusters occurs meeting the limitations of claim 4, 17, and 24.

5) Claims 4, 8, 9, 11, 17-19, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerberg (US 4,656,153). Wennerberg discloses teaches using any transitional metal or combinations thereof supported on a porous carbon (Column 7, lines 14-20) may be used as a gas filter (Column 1, lines 14-17 and Examples 5-6). Claims 4, 8, 9, 11, 17-19 and 24 additionally recite forming nanometer or micrometer clusters. At the time the invention was made, It is obvious to a person of ordinary skill in the art that mixtures of atoms Ti atoms or Fe atoms with Al atoms would form clusters at the claimed level.

Allowable Subject Matter

In view of further consideration the indicated allowability of claims 27-28 is withdrawn. Rejections of said claims are noted above.

Response to Arguments


Applicant's arguments filed 2/7/03 have been fully considered but they are not persuasive. Applicant argues that Wennerberg, Vanin, nor Heim disclose an "intermetallic reagent". In view that Applicant does not provide a definition for a "intermetallic reagent" it is considered that Vanin's FeSO_4 , which is added to the filter as shown in table 1, Wennerberg's combinations of metals selected from iron and aluminum (See Col. 7 lines 14-21), and Heim's disclosing an aluminum and titanium metal combination are considered as "intermetallic reagent".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is (703) 605-1174. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (703) 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.


STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

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April 22, 2003